

## THE CONTEXT OF REINFORCEMENT IN VERBAL CONDITIONING<sup>1</sup>

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### PROBLEM

The present study investigated the effectiveness of reinforcement in verbal operant conditioning following two different types of antecedent experiences. By manipulating instructions prior to conditioning it was possible to create contexts of reinforcement differing primarily in degree of ambiguity.

### METHOD

*Subjects.* A group of 62 advanced medical students were given a TAT-like verbal conditioning task, within the general context of "being exposed to psychological testing".

*Verbal Conditioning.* The procedures used in the conditioning task have been described previously<sup>(5)</sup>. Subjects told TAT-like stories to emotionally bland drawings, and use of emotional words (EW)<sup>(2)</sup> was the response class studied. During reinforced trials *E* said "Mm-hmm" and nodded his head whenever *S* used an EW, but no consistent reinforcement was given during operant trials.

Prior to conditioning trials, 30 *Ss* were asked to read "sample" stories. For fourteen of these *Ss* the samples were identified as stories obtained "from other people". The remaining 16 *Ss* read the same samples, but in addition were told that two of the stories were given by mental patients and two by college students. Two samples, written intentionally with considerable emotionality, were identified as patient stories, while two stories written in a bland style were labeled student stories. Thus, for 16 *Ss* the antecedent structuring was designed to conflict with *E's* subsequent reinforcement of *Ss* use of EW.

For 32 *Ss* collected in a previous study<sup>(1)</sup>, sample stories were not given prior to conditioning trials. Since these *Ss* were not given norms, against which they could compare their own performance, the condition constituted an ambiguous context of reinforcement. The condition with the sample stories constituted the structured context of reinforcement.

### RESULTS

Reliability of scoring EW has been demonstrated to be .90 or greater<sup>(6)</sup>. The measure of conditioning was defined as the increment in EW on reinforced as compared to operant trials; a constant of 50 was added to eliminate negative scores. These means and sigmas are presented in Table 1 under the heading Conditioning.

The contexts of reinforcement differed significantly ( $F = 13.94, P < .01$ ) and the interaction between context and *E's* approached significance ( $F = 3.26, 1/59 df, P = .09$ ). Differences between *E's* were not significant ( $F = 1.66$ ). The examiners obtained highly significant conditioning under the ambiguous context, but unreliable effects under the structured context of reinforcement. The two types of structuring however did not produce differential conditioning. (Only the variance for examiners was significant, indicating that one *E* obtained conditioning, the other did not.) Further analyses of differences in operant EW rate were not statistically significant; the conditioning noted for the main contexts was not attributable to differences in EW base rates.

<sup>1</sup>From the Behavioral Research Laboratory, Veterans Administration Hospital, Palo Alto, California. Portions of this paper were presented at the 42nd Annual Meeting of the Western Psychological Association, San Francisco, April 19-21, 1962. This investigation was supported in part by Research Grants M-2458 and M-6191 from the National Institute of Mental Health, Public Health Service, through Stanford University.

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TABLE 1. MEANS AND STANDARD DEVIATIONS FOR CONDITIONING SCORES, AND AFFECTIVE TONE SCORES OF EMOTIONAL WORDS FOR OPERANT TRIALS

		Ambiguous		Structured	
		$\bar{X}$	SD	$\bar{X}$	SD
E <sub>1</sub>	Conditioning <sup>1</sup>	59.0	12.8	54.3	9.16
	Affective tone <sup>2</sup>	46.1	6.07	40.6	7.45
E <sub>2</sub>	Conditioning	60.1	8.59	46.5	8.42
	Affective tone	47.1	6.07	42.5	6.27

<sup>1</sup>Increment in Number of EW Reinforced minus operant trials plus 50.

<sup>2</sup>Low score indicates pleasantness direction.

Using a measure<sup>(3, 4)</sup> of the affective tone of EW, it was found that the operant stories told under the ambiguous context were significantly less pleasant than those told under the structured context ( $F = 11.16$ ,  $P < .01$ ). These data are presented in Table 1 under the heading Affective Tone; a low score goes with pleasantness.

#### SUMMARY AND CONCLUSIONS

Sixty-two advanced medical students were seen in a verbal operant conditioning study, where the context of reinforcement was either purposefully structured by *E* or left ambiguous. In order to manipulate the context of reinforcement 30 Ss were provided with sample stories prior to telling their own stories. For 16 of these Ss a further attempt was made to create a conflict between the verbal behavior selected for reinforcement (emotional words) and the implied social significance of such behavior. A reliable conditioning effect was obtained for only those 32 Ss not receiving sample stories (Ss in the ambiguous context of reinforcement). In addition, it was found that the operant stories for this group contained significantly less pleasant emotional words. Since affective tone may reflect situational anxiety<sup>(4)</sup>, these data suggest that ambiguous instructions are associated with heightened situational anxiety, and that examiner reinforcement in this context is effective because of possible anxiety reduction; examiner reinforcement may serve as a means of structuring the situation for subjects.

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